Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-71 (Canceled).

72. (Currently Amended) A method for analysis of at least one analyte in a body fluid, comprising:

increasing a permeability level of an area of skin by applying low frequency ultrasound forces to said area, said low frequency ultrasound forces having a frequency of less than 2.5 MHz;

extracting said at least one analyte through said area of skin by application of a transport force to said area;

receiving said at least one analyte in a sensing zone in communication with said area; and

monitoring changes in the analyte concentration of the body fluid by continuously determining the quantity of said at least one analyte in said body fluid in said sensing zone.

73. (Canceled)

74. (Previously Presented) The method of claim 72, wherein said transport force is selected from the group consisting of physical forces, chemical forces, biological forces, vacuum, electrical forces, osmotic forces, diffusion forces, electro-magnetic forces, ultrasound forces, cavitation forces, mechanical forces, thermal forces, capillary forces, fluid circulation across the skin, electro-acoustic forces, magnetic forces, magneto-hydrodynamic

forces, acoustic forces, convective dispersion, photo acoustic forces, by rinsing body fluid off skin, and any combination thereof.

75. (Original) The method of claim 74, wherein said vacuum force is applied continuously.

76. (Original) The method of claim 74, wherein said vacuum force is applied discontinuously.

77. (Previously Presented) A method for analysis of at least one analyte in a body fluid, comprising:

increasing a permeability level of an area of skin by applying low frequency ultrasound forces to said area;

extracting said at least one analyte through said area of skin by application of a transport force to said area;

receiving said at least one analyte in a sensing zone in communication with said area; and

continuously determining the quantity of said at least one analyte in said body fluid in said sensing zone;

wherein said transport force is selected from the group consisting of physical forces, chemical forces, biological forces, vacuum, electrical forces, osmotic forces, diffusion forces, electro-magnetic forces, ultrasound forces, cavitation forces, mechanical forces, thermal forces, capillary forces, fluid circulation across the skin, electro-acoustic forces, magnetic forces, magneto-hydrodynamic forces, acoustic forces, convective dispersion, photo acoustic forces, by rinsing body fluid off skin, and any combination thereof; and

wherein a material is placed between said vacuum force and said skin in order to maintain a surface configuration of said skin.

78. (Original) The method of claim 77, wherein said material is selected from the group consisting of mesh, membrane, and perforated metal.

79. (Original) The method of claim 77, wherein said vacuum force is generated by a device selected from the group consisting of mechanical, electro-mechanical, chemical, or electro-chemical.

80. (Original) The method of claim 74, wherein said electrical force is selected from the group consisting of iontophoretic, electro-osmotic, and electroporation.

81. (Original) The method of claim 74, wherein a gel is applied to said skin in order to encourage osmosis.

82. (Previously Presented) The method of claim 74, wherein said transport force is an ultrasound force and wherein said ultrasound force is applied to create a result, said result selected from the group consisting of pumping body fluid and fluid components, levitating, activating gas bodies, producing cyclic impulse mechanical stress to the skin, creating microstreaming, increasing temperature, and setting up standing waves.

83. (Previously Presented) The method of claim 74, wherein a plurality of ultrasound-producing devices are used to create said ultrasound transport force.

84. (Original) The method of claim 83 wherein said a plurality of ultrasound-producing devices have at least one different operating characteristic.

85. (Original) The method of claim 84, wherein said operating characteristic is selected from the group consisting of frequency, intensity, and coupling media.

86. (Original) The method of claim 74, wherein said mechanical forces are applied by a device selected from the group consisting of a roller, a squeezer, a stretcher, a compressor, and a tensioner.

87. (Original) The method of claim 86, wherein said tensioner collects said body fluid in a cavity formed therein.

88. (Original) The method of claim 74, wherein said thermal forces are created by a source selected from the group consisting of electric, chemical, ultrasonic, and optical energy sources.

89. (Previously Presented) A method for analysis of at least one analyte in a body fluid, comprising:

increasing a permeability level of an area of skin by applying low frequency ultrasound forces to said area;

extracting said at least one analyte through said area of skin by application of a transport force to said area;

receiving said at least one analyte in a sensing zone in communication with said area; and

continuously determining the quantity of said at least one analyte in said body fluid in said sensing zone;

wherein said transport force is selected from the group consisting of physical forces, chemical forces, biological forces, vacuum, electrical forces, osmotic forces, diffusion forces, electro-magnetic forces, ultrasound forces, cavitation forces, mechanical forces, thermal forces, capillary forces, fluid circulation across the skin, electro-acoustic forces, magnetic forces,

magneto-hydrodynamic forces, acoustic forces, convective dispersion, photo acoustic forces, by rinsing body fluid off skin, and any combination thereof; and

wherein temperature sensitive polymers are used to extract said at least one analyte.

90. (Previously Presented) The method of claim 72, wherein said step of receiving said at least one analyte comprises using a method selected from the group consisting of absorption, adsorption, phase separation, mechanical, electrical, chemically induced, capillary forces, and a combination thereof.

91. (Previously Presented) The method of claim 90, wherein said absorption method comprises said at least one analyte into a gel.

92. (Original) The method of claim 91, wherein said gel contains a captive enzyme.

93. (Previously Presented) A method for analysis of at least one analyte in a body fluid, comprising:

increasing a permeability level of an area of skin by applying low frequency ultrasound forces to said area;

extracting said at least one analyte through said area of skin by application of a transport force to said area;

receiving said at least one analyte in a sensing zone in communication with said area; and

continuously determining the quantity of said at least one analyte in said body fluid in said sensing zone;

wherein said step of receiving said at least one analyte comprises using a method selected from the group consisting of absorption, adsorption, phase separation, mechanical, electrical, chemically induced, capillary forces, and a combination thereof; and

wherein said phase separation method comprises isolating said at least one analyte with an appropriate density immiscible fluid.

94. (Previously Presented) The method of claim 93, further comprising receiving said at least one analyte into a conical chamber.

95. (Previously Presented) The method of claim 90 wherein a hydrophobic coating is applied to said skin prior to said step of extracting said at least one analyte from said area of skin.

96. (Previously Presented) The method of claim 95, wherein said at least one analyte is collected from said hydrophobic coating.

97. (Previously Presented) The method of claim 90, wherein said mechanical method comprises applying a force selected from the group consisting of vacuum, pressure, and acoustic forces.

98. (Previously Presented) The method of claim 90, wherein said electrical method comprises moving a charged object from said skin to a receiving compartment using electrical forces.

99. (Currently Amended) A method for analysis of at least one analyte in a body fluid, comprising:

increasing a permeability level of an area of skin by applying low frequency ultrasound forces to said area, said low frequency ultrasound forces having a frequency of less than 2.5 MHz;

extracting said at least one analyte through said area of skin by application of a transport force to said area;

receiving said at least one analyte in a sensing zone in communication with said area; and

monitoring changes in the analyte concentration of the body fluid by continuously determining the quantity of said at least one analyte in said body fluid in said sensing zone;

wherein said step of receiving said at least one analyte comprises using a method selected from the group consisting of absorption, adsorption, phase separation, mechanical, electrical, chemically induced, capillary forces, and a combination thereof; and

wherein said chemical method comprises applying a hydrophilic gel to receive said at least one analyte.

100. (Previously Presented) A method for analysis of at least one analyte in a body fluid, comprising:

increasing a permeability level of an area of skin by applying low frequency ultrasound forces to said area;

extracting said at least one analyte through said area of skin by application of a transport force to said area;

receiving said at least one analyte in a sensing zone in communication with said area; and

continuously determining the quantity of said at least one analyte in said body fluid in said sensing zone;

wherein said step of receiving said at least one analyte comprises using a method selected from the group consisting of absorption, adsorption, phase separation, mechanical, electrical, chemically induced, capillary forces, and a combination thereof; and

wherein said capillary collection method comprises:

filling at least one capillary with a plurality of fibers; and

receiving said at least one analyte in said at least one capillary.

101. (Previously Presented) The method of claim 72, wherein said step of continuously determining the quantity of said at least one analyte comprises applying a sensing method selected from the group consisting of electrochemical, optical, acoustical, biological, enzymatic technology, and combinations thereof.

102. (Previously Presented) The method of claim 72, wherein living cells are used to determine the quantity of said at least one analyte in said body fluid.

103. (Original) The method of claim 72, further comprising the step of providing an output for a user interface comprises providing an alarm that indicates an abnormal analyte concentration.

104. (Previously Presented) The method of claim 72, further comprising the step of providing an output for a user interface comprises providing trend information.

105. (Original) The method of claim 72, further comprising the step of providing history information.

106. (Original) The method of claim 72, wherein said user output is downloadable.

107. (Currently Amended) A system for analysis of at least one analyte in a body fluid comprising:

a low frequency ultrasound transducer for increasing the permeability of an area of skin, said low frequency ultrasound transducer adapted to operate at a frequency of less than 2.5 MHz;

means providing an extraction transport force through said area;

a sensing zone in communication with said area into which said at least one analyte is extracted by said transport force; and

a sensing device in said sensing zone for monitoring changes in the analyte concentration of the body fluid by continuously measuring the quantity of said at least one analyte in said body fluid.

108. (Previously Presented) The system of claim 107, further comprising a microcontroller for controlling at least one of said transducer, said means providing an extraction transport force, and said sensing device.

109. (Original) The system of claim 107, further comprising a user output device.

110. (Original) The system of claim 108, further comprising a microcontroller for controlling said user output device.

111. (Canceled)

112. (Previously Presented) The system of claim 107, wherein said means providing an extraction transport force is a device that produces a force selected from the group consisting of physical forces, chemical forces, biological forces, vacuum pressure, electrical forces, osmotic forces, diffusion forces, electro-magnetic forces, ultrasound forces, cavitation forces, mechanical forces, thermal forces, capillary forces, fluid circulation across the skin, electro-acoustic forces, magnetic forces, magneto-hydrodynamic forces, acoustic forces, convective dispersion, photo acoustic forces, by rinsing said at least on analyte off skin, and any combination thereof.

113. (Canceled)

114. (Previously Presented) The system of claim 107, wherein said sensing device is a device that measures the amount of an analyte by a sensing method selected from the group consisting of electrochemical, optical, acoustical, biological, enzymatic technology, and combinations thereof.

115. (Original) The system of claim 109, wherein said user output device provides information selected from the group consisting of trend information, history information, operating information, and combinations thereof.

116. (Original) The system of claim 115, wherein information from said user output device is downloadable to a computer.

117. (Currently Amended) A method for blood glucose determination comprising:

increasing a permeability of an area of skin by applying low frequency ultrasound forces to said area, said low frequency ultrasound forces having a frequency of less than 2.5 MHz;

extracting glucose from said area of skin;

receiving said glucose in a gel, said gel containing at least one glucose sensitive reagent that changes at least one characteristic of said gel when glucose is present; and

monitoring changes in the analyte concentration of the body fluid by continuously monitoring a change in said at least one characteristic of said gel.

118. (Currently Amended) A system for blood glucose determination comprising:

a low frequency ultrasound transducer for increasing the permeability of an area of skin, said low frequency ultrasound transducer adapted to operate at a frequency of less than 2.5 MHz;

an extraction device for extracting glucose from said area of skin;

a receiving device for receiving said extracted glucose;

a gel in said receiving device;

at least one glucose sensitive reagent that changes at least one characteristic of said gel when glucose is present; and

a monitoring device for monitoring changes in the glucose concentration of blood by continuously monitoring a change in said at least one characteristic of said gel.

119. (Original) The system of claim 118, wherein the at least one glucose sensitive reagent is in said gel.

120-157. (Canceled).